

## PATENT COOPERATION TREATY

## PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT  
(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference P-2002-020WO	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
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International application No. PCT/DK 03/00630	International filing date (day/month/year) 25.09.2003	Priority date (day/month/year) 08.10.2002
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International Patent Classification (IPC) or both national classification and IPC  
H05K1/02

Applicant  
OTICON AS et al.

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
  - ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 1 sheets.

3. This report contains indications relating to the following items:
  - I ☒ Basis of the opinion
  - II ☐ Priority
  - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV ☐ Lack of unity of invention
  - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI ☐ Certain documents cited
  - VII ☐ Certain defects in the international application
  - VIII ☐ Certain observations on the international application

Date of submission of the demand

04.05.2004

Date of completion of this report

20.07.2004

Name and mailing address of the International preliminary examining authority:



European Patent Office  
D-80298 Munich  
Tel. +49 89 2399 - 0 Tx: 523656 epmu d  
Fax: +49 89 2399 - 4465

Authorized Officer

Miot, F

Telephone No. +49 89 2399-2714



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**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/DK 03/00630**

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-4 as originally filed

**Claims, Numbers**

1-3 filed with telefax on 24.06.2004

**Drawings, Sheets**

1/1 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
  - ☐ the language of publication of the international application (under Rule 48.3(b)).
  - ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
  - ☐ filed together with the international application in computer readable form.
  - ☐ furnished subsequently to this Authority in written form.
  - ☐ furnished subsequently to this Authority in computer readable form.
  - ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
  - ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.
4. The amendments have resulted in the cancellation of:
- ☐ the description, pages:
  - ☐ the claims, Nos.:
  - ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/DK 03/00630**

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes: Claims	1-3
	No: Claims	
Inventive step (IS)	Yes: Claims	1-3
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-3
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

With respect to Section V.

1. Claim 1 relates to a layered structure with electric leads for a hearing aid. US-A-20010035529 (see claims 2-3 and fig. 1) US-A-6396000 (see claim 1 and fig. 1) discloses a layered structure with electric leads, wherein signals are fed along metallic leads, which are adhered to a layer on or within the layered structure and where a first and a second lead for connecting a first and a second lead for connecting a first and a second terminal of a component are provided and whereby the two leads are passed side by side and alternating on the two sides of the layer, and in such a manner that the first and second lead will cross one another at an angle but passing on each their side of the layer.

Thus, the subject-matter of claim 1 differs from the prior art known from US-A-20010035529 in that

the electric leads are specially adapted for a hearing aid, and

the leads are connected to an amplifier at one end and to a hearing aid receiver at the other end.

Thus, the subject-matter of claim 1 has to be regarded as novel.

The problem underlying the subject-matter of claim 1 is that of avoiding interference problems in the field of hearing aids.

In modern hearing aids the signal driving the receiver is often a pulsed signal with only few different levels. Due to the nature of such a signal, the interference problem will be much bigger than expected. This has the effect that especially the telecoil, which is standard in many hearing aids, will pick up the noise radiated from the pulsed signal running in the lead to the receiver. In electrical devices the solution to this problem would be to place the telecoil at a place distanced from the wires connecting the receiver and the amplifier. Because of the lack of space this obvious solution cannot be used in hearing aids.

The available documents are silent with respect to hearing aids and give therefore no incitement to the claimed solution.

US-A-6396000 (see claim 1 and fig. 1) is in particular concerned with a pcb and a method for reducing radio frequency interference emissions from conductive traces on a printed circuit board.

An inventive step has therefore to be admitted.

2. Claims 2-3. are dependent on claim 1. and as such also meet the requirements of the PCT with respect to novelty and inventive step.

## CLAIMS

1. Layered structure with electric leads for a hearing aid , wherein electric signals are fed along metallic leads, which are adhered to a layer on or within the layered structure and where a first and a second lead for connecting a first and a second terminal of a component are provided and whereby the leads are connected to an amplifier at one end and to a hearing aid receiver at the other end and whereby the two leads are passed side by side and alternating on the two sides of the layer, and in such a manner that the first and second lead will cross one another at an angle but passing on each their side of the layer.
2. Layered structure as claimed in claim 1, where the leads pass in such a way that a maximum number of twists is achieved.
3. Layered structure as claimed in claim 1 whereby the leads from one through hole of the layer to the next are drawn in a straight line and the through holes for passing the leads through the layer are placed side by side with no more space there between than is necessary for isolation purposes.

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## Fiche d'accompagnement — Routing slip

A To	<i>Miot, F</i>	<i>IPEA</i>	<i>EP</i>
Pour suite à donner			For action
Pour approbation		<input checked="" type="checkbox"/>	For approval
Pour signature			For signature
Projet à rédiger			Prepare draft
Pour observations			For comments
Pourrions-nous en parler ?			May we discuss?
Votre attention			Your attention
Comme convenu		<i>EPO - Munich</i>	As discussed
Suite à votre demande		<i>59</i>	As requested
Noter et classer		<i>30 Aug. 2004</i>	Note and file
Noter et retourner			Note and return
Pour information			For information

*the date of submission of the  
demande (IPER) is 3 May 2004.*

*the date of receipt of the  
Demande is 4 May 2004.  
Please clarify.*

Date	De/From
<i>26.07.2004</i>	<i>Luis DA Costa.</i>